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ORIGINAL ARTICLE

INFLUENCE ON CONDITIONS OF HEALTH OF THE NEWBORN ABOUT THE MATERNAL SELF-EFFICACY IN BREASTFEED

INFLUÊNCIA DE CONDIÇÕES DE SAÚDE DO RECÉM-NASCIDO SOBRE A AUTOEFICÁCIA MATERNA EM AMAMENTAR

INFLUENCIA DE CONDICIONES DE SALUD DEL RECIÉN NACIDO SOBRE LA AUTOEFICACIA MATERNA EN AMAMANTAR

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ABSTRACT

Objective: to verify the association of self-efficacy scores for breastfeed in prenatal and in postpartum, with the health conditions of the newborn. **Method:** quantitative, longitudinal of the type panel study, held in Pacatuba-CE, with 50 women interviewed in the prenatal and postpartum, at the period from July to November 2011. The sample attended to criteria of inclusion and exclusion. Data collection was performed by applying two instruments: Breastfeeding Self-Efficacy Scale - Short-Form (BSES-SF) and form. The data were processed using the Statistical Package for Social Sciences version 17.0, and analyzed according to the literature. The research was approved by the Ethics Committee in Research of the Federal University from Ceara, protocol 124/2011. **Results:** The female participants were on average 23 years old (SD = ± 5.3), earning more than R\$141.00, with eight or more years of study. There was verified statistically significant association with the BSES-SF scores in both prenatal and postpartum, at the following variables: newborns who came weighing 3000 grams or more (p=0.007), measuring between 46 and 52 cm (p=0.008), of the gender male (p=0.010), with Apgar score at the first (p=0.006), and at the fifth minute (p=0.004), greater than or equal to seven, to term (p=0.028) in exclusive breastfeeding (p=0.011), with a daily frequency of breastfeeding at the fifteenth day of puerperium of more than 10 times (p=0.010). **Conclusion:** The nurse must consider the health conditions of the mother and the child at the developing and implementing of strategies for the promotion of maternal self-efficacy in breastfeeding. **Descriptors:** breast feeding; self-efficacy; nursing.

RESUMO

Objetivo: verificar a associação dos escores de autoeficácia para amamentar no pré-natal e no pós-parto com as condições de saúde do recém-nascido. **Método:** estudo quantitativo, longitudinal do tipo painel, realizado em Pacatuba-CE, com 50 mulheres, entrevistadas no pré-natal e pós-parto, no período de julho a novembro de 2011. A amostra atendeu a critérios de inclusão e exclusão. A coleta de dados foi realizada com a aplicação de dois instrumentos: *Breastfeeding Self-Efficacy Scale - Short-Form* (BSES-SF), e formulário. Os dados foram processados no Statistical Package for the Social Sciences (SPSS), versão 17.0 e analisados de acordo com a literatura. O projeto de pesquisa foi submetido e aprovado pelo Comitê de Ética em Pesquisa, da Universidade Federal do Ceará, com o protocolo 124/2011. **Resultados:** as participantes tinham, em média, 23 anos (DP=± 5,3), renda maior que R\$141,00, com oito ou mais anos de estudo. Verificou-se associação estatisticamente significativa com os escores da BSES-SF, tanto no pré-natal quanto no pós-parto nas seguintes variáveis: recém-nascidos que nasceram com 3000 gramas ou mais (p=0,007), medindo entre 46 e 52 cm (p=0,008), do sexo masculino (p=0,010), com APGAR no primeiro (p=0,006), e no quinto minuto (p=0,004), maior ou igual a sete, a termo (p=0,028), em aleitamento materno exclusivo (p=0,011), com uma frequência diária de mamada no décimo quinto dia de puerpério de mais de 10 vezes (p=0,010). **Conclusão:** o enfermeiro deve considerar as condições de saúde da mãe e do filho no desenvolvimento e na implementação de estratégias que visem a promoção da autoeficácia materna em amamentar. **Descritores:** aleitamento materno; autoeficácia; enfermagem.

RESUMEN

Objetivo: verificar la asociación de los marcadores de auto-eficacia para amamentar durante el prenatal y posparto con las condiciones de salud del recién nacido. **Método:** estudio cuantitativo, longitudinal de tipo panel, realizado en Pacatuba-CE, con 50 mujeres, entrevistadas durante el prenatal y posparto entre julio y noviembre de 2011. El muestreo obedeció a criterios de inclusión y exclusión. La recogida de datos se realizó con la ampliación de instrumentos: *Breastfeeding Self-Efficacy Scale-Short-Form* (BSES-SF), y formulario. Los datos se procesaron en el Statistical Package for the Social Sciences (SPSS) versión 17.0 y analizados según la literatura. El proyecto de investigación fue aprobado por el Comité de Ética en Investigación de la Universidad Federal de Ceará, protocolo 124/2011. **Resultados:** las participantes tenían en media 23 años (DP±5,3), renta mayor de R\$141,00, con ocho o más años de escolaridad. Se verificó asociación estadísticamente insignificante con los escolares de la BSES-SF, tanto en el prenatal como en el posparto en las siguientes variables: recién nacidos que nacieron con 3000 gramos o más (p=0,007), midiendo entre 46 y 52 cm (p=0,008), del sexo masculino (p=0,010), con APGAR en el primero (p= 0,006) y en el quinto minuto (p=0,040), mayor o igual a siete, a término (p=0,028), en amamentamiento materno exclusivo (p=0,011), con una frecuencia diaria de amamentamiento en el décimo quinto día de puerperio de más de 10 veces (p=0,010). **Conclusión:** el enfermero debe considerar las condiciones de salud de madre e hijo en el desarrollo e implementación de estrategias que fomenten la promoción de la auto-eficacia materna en amamentar. **Descriptores:** lactancia materna; autoeficacia; enfermería.

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INTRODUCTION

The benefits of breastfeeding, in short and long term, to the health of the child are widely discussed in the literature, in such a way that the World Health Organization (WHO) recommends that the same has to be exclusive up to six months of the life of the child and supplemented, at least, up to two years of age. It is known that breastfeeding is the isolated strategy that most prevents child deaths, having as potential to prevent 13% of deaths of children under five years old, worldwide, because of preventable causes.^{1,2}

Despite the uncounted advantages, and of the governmental and non-governmental actions in favor of breastfeeding, the time average of exclusive breastfeeding still does not attend the recommended by the Ministry of Health. It is observed, however, that in Brazil the adherence to breastfeeding is increasing the rates in the last decades, because in 1999, the duration of the Medical Specialized Attendance was of 24 days and, in 2008, it reached 54 days,^{3,4} although the time of the Medical Attendance still is found much below the recommendation of 180 days.

Among the causes that have influenced the early weaning, are standed out: the age, education, family income, marital status, considered non-modifiable; besides clefts, mammary engorgement, and absence of support for breastfeeding and the absence of maternal self-efficacy to establish and keep breastfeeding, appreciated as modifiable causes.⁵⁻⁷

Self-efficacy can be defined as confidence in their competence and efficiency to realize a determinated task; it makes the mediation between the knowledge and behavior of the individual.⁸ Many researchers have found that mothers with self-efficacy are more likely to choose to breastfeed, and persist when confronted with difficulties.⁹⁻¹²

Given the exposed, since the nurse has an important role in the promotion of breastfeeding, it makes pressing that this professional evaluate the conditions of life of the mother and the child, as well as the maternal breastfeeding self-efficacy, which is a liable key of change, wanting, therefore, innovative educative strategies during the pregnancy and childbirth. Thus, the study has as objective to verify the association of the self-efficacy scores for breastfeed in prenatal and postpartum with the health conditions of the newborn.

METHOD

A quantitative, longitudinal panel type study, conducted with women who were pregnant from the 30th week, who were followed in one of the six Basic Family Health Units in the municipality of Pacatuba-Ceara, in the period from July to November 2011. The choice of these units was due to the same be located in the territorial boundaries of greater geographical concentration of Pacatuba, which corresponds to the third largest city in population density in the metropolitan region of Fortaleza.¹³

The sample included the entire population of 50 women who corresponded to the following eligibility criteria: be from the 30th week of pregnancy with singleton pregnancy, followed at prenatal/puerperium, whose children would have to be consulted in the mother-craft of the selected Basic Units of Health. Were defined as exclusion criteria: physical and / or mental restrictions, which would preclude the comprehension of the instrument, pregnant with risk prenatal and neonates who had greater permanence than fifteen days in the Intensive Care Unit (ICU).

The data collection was realized in two phases with the same woman. Thus, each one served as own control, translating themselves into a longitudinal follow up of self-efficacy to breastfeed. At the first moment, were applied two instruments for pregnant women: the Breastfeeding Self-Efficacy Scale - Short-Form (BSES-SF), which has as an end to evaluate the impact of the level of confidence of the mother herself, on the success of breastfeeding, and a form addressing sociodemographic data.⁹

Considering the second moment of the study, this occurred on the 15th day of puerperium of the woman with the application form with data about the health conditions of the newborn and type of breastfeeding, making up, again, the application of BSES-SF.

The BSES-SF scale, used in this study was validated, obtaining reliability index of Cronbach's Alpha (0.74), comprised of 14 items distributed into two domains (Technical and Intrapersonal Thoughts), whose response pattern varies from 1 (strongly disagree) to 5 (strongly agree). Thus, the total scores of the scale can vary from 14 to 70 points.⁹

It is worth noting that, initially, data collection should have occurred only in the very selected Basic Units of Health, where was a room reserved for the interview, and

that this should only happen after the attendance of women in prenatal consultation, or after the consultation of the mother-craft of the newborn. However, it was also necessary to conduct interviews in the homes of some students, due to the absence of them at the appointments.

The data were processed at the Statistical Package for Social Sciences (SPSS), version 17.0, performing exploratory analysis by ways of descriptive statistical tests, beyond the Student's tests and Wilcoxon test, considering as significant $p<0,05$, which are analyzed according to the literature.

The research project was submitted to the appreciation of the Ethics Committee in Research of the Federal University of Ceara,

obtaining approval under the protocol 124/2011. It should be noted that all participants of the study signed a Term of Consent Free and Informed.

RESULTS

Regarding the characterization of sociodemographic variables, it was verified that among the 50 women who participated in the study, the ages varied from 15 to 43 years old ($M = 23$, $SD = \pm 5.3$), the prevalent per capita income was higher than R\$ 141.00, with an average of three to four people living at home. Most homes had water supply and public sewage, regular garbage collection, as well as proximity to the Basic Health Unit (BHU).

Table 1. Sociodemographic characterization of the pregnant followed in Family Health Units. Paracatuba-Ceara, 2011.

Variables			Specifications	n	%	A	SD
Age			15-17	9	18	23,0	5,3
			18-43	41	82		
Marital Status			Married/Consensual Union	38	76		
			Single/Divorced	12	24		
Maternal Scholarity			<8 years	12	24	8,6	2,6
			≥ 8 years	38	76		
Occupation			With occupation	9	18		
			Without occupation	33	66		
			Student	8	16		
Familiar Income	Per Capita		Lesser than R\$ 140 (<26% SM)	17	34	0,4	0,3
			Bigger than R\$ 141 (>27% SM)	33	66		
Smokers			Yes	3	6		
			No	45	90		
			Ex-smoker	2	4		
Origin of the water			CAGECE	46	92		
			Others	4	8		
Sewage Disposal			CAGECE/Septic gully	39	78		
			Street/River/Brook	11	22		
Regular Garbage Collection			Yes	50	100		
Lives next to the HBU			Yes	32	64		
			No	18	36		

§ MW: Minimum Wage during the study = R\$ 545,00; A=Average; SD: Standard deviation

In Table 2, the variables related to the health conditions of the newborn that showed a statistically significant association with the BSES-SF scores in both the prenatal and postpartum, were: newborns with 3000 grams or more ($p = 0.007$) ($M = 3272g$, $SD \pm 473.1$), measuring between 46 and 52 cm ($p = 0.008$) ($M = 48.52$ cm, $SD \pm 2.5$), of the

gender male ($p = 0.010$), with Apgar score at the first ($p = 0.006$) ($M = 6.3$, $SD \pm 3.5$) and at the 5th minute ($p = 0.004$) ($M = 7$, $SD \pm 3.8$), greater than or equal to seven, term ($p = 0.028$); on exclusive breastfeeding ($p = 0.011$), with a daily frequency of breastfeeding at the 15th day of puerperium of more than 10 times ($p = 0.010$).

Table 2. Association of the variables related to the health conditions of the newborn (NB) with the scores of the BSES-SF in prenatal and postpartum. Paracatuba - Ceara, 2011.

Variables	Specifications	n	%	BSES-SF PN		BSES-SF PP		p
				M	EPM	M	EPM	
Weight when born	< 2500g	1	2	63		67		
	2500 - 2999g	13	26	57,7	±1,7	58,2	±2,1	0,789
	≥3000g	36	72	57,2	±1,2	61,1	±1,1	0,007
Length when born (cm)	42-45cm	7	14	60,1	±2,2	62	±2	0,061*
	46-52cm	40	80	56,9	±1,2	60,5	±1,1	0,008
	53-56cm	3	6	58,5	±3,3	57	±4,5	0,842*
Gender	Male	32	64	58	±1,3	60,2	±1,2	0,150
	Female	18	36	56,4	±1,5	60,8	±1,5	0,010
APGAR 1º	<7	2	4	53,5	±1,5	56,5	±1,5	
	≥7	37	74	56,9	±1,2	60,7	±1	0,006
	Not in	11	22	60	±2	60,3	±2,6	
APGAR 5º	≥7	39	78	56,7	±1,1	60,4	±1	0,004
	Not in	11	22	60	±2	60,3	±2,6	0,913
Classification	Term	45	90	57,9	±1,1	60,5	±1	0,028
	Preterm	4	8	51,3	±1,8	58	±3	0,248*
	Postterm	1	2	63		67		
Type of feed (until the 15 th day)	Exclusive Breastfeeding	46	92	57,83	±1	61	±0,9	0,011
	Mixed Breastfeeding	4	8	53,25	±3,5	54,5	±5,5	0,612
Breastfeedings / day (until the 15th day)	8 - 10	7	14	60,1	±2,7	60,9	±3,3	0,691
	>10	43	86	55	±1,1	60,4	±1	0,010

A = Average; SD: Standard Deviation; A BSES-SF PN: Average of the scores of the BSES-SF at prenatal; A BSES-SF PP: Average of the scores of the BSES-SF at postpartum; ASE: Average Standard Error; p: Student T-Test; * Wilcoxon's Test.

DISCUSSION

To know the sociodemographic variables, as well as self-efficacy of the women to breastfeed associated to the conditions of birth of the newborn, provides to evidence indicators that help the health professionals in the implement of effective interventions for the binomial mother and child, as well as the reorganization of the health services.

These findings are similar to those found in other studies that verified that the variables: age, marital status, occupation, income and scholarity may impact positively or not in the process of breastfeeding.

Younger mothers with less scholarity and smoker women are in groups at risk to wean early, or even not to start the process of breastfeeding, although it is evident that some teenage mothers have a strong predisposition to breastfeed.

The relationship between scholarity and prevalence of exclusive breastfeeding is documented in cohort study in which women with only primary education had the double of risk of early weaning their children compared to those with higher education. The access to information, as well as the comprehension of the supremacy of maternal milk in infant feeding, can be associated with a higher scholarity of the mother, resulting in better performance of these in breastfeeding.

The impact of the participation of the fellow in the process of breastfeeding has been discussed, especially in recent decades. It is agreed that breastfeeding is influenced by the family and the social environment.

Thus, the partner's support to women in the promotion of breastfeeding during the pregnancy and childbirth can be an important predictor of success in breastfeeding.

A study conducted in day care centers in Sao Paulo found that among the evaluated socioeconomic variables, the family income lesser than or equal to three minimum wages was the one which was associated more often with early weaning, being the risk three times higher. In families with unfavorable socioeconomic conditions, in general, is necessary that the woman has a job to contribute with the income and survival of the family, even though many times these nursing mothers are not inserted in the formal market, a fact that contributes to the early weaning of the children, since these are not benefited by the maternity leave granted by the law.

Whether or not the pregnant woman lives near the Basic Health Unit, the actions of the Family Health Strategy (FHS) should address their needs for assistance during the monitoring of prenatal and puerperium, including actions of promotion to the breastfeeding.

Study on cultural practices in relation to breastfeeding among families enrolled in Family Health Strategy (FHS) considers that is not sufficient only to inform the benefits and management of breastfeeding. It is necessary that the professionals implement educational actions that include the perspective of promotion of health of these women.

Thus, the understanding of the conditions of life and the family context of women who breastfeed is important for decision making

regarding the approach to be used in educational actions to promote breastfeeding. It is understood that the professionals who work in Family Health Strategy (FHS) are at all moments making approximations with the reality of the population, what allows them to identify the necessities of women and their families about breastfeeding.

Statistically significant associations were observed between the BSES-SF scores of prenatal and postpartum with some health conditions of the newborn, such, as example, the variable weight, when born with the maternal self-efficacy, evidenced by other studies. It is worth to mention that the weight, when born, beyond representing the principal parameter of the intrauterine growth, has a strong association with the neonatal morbidity and mortality, including the neuromotor committal, chronic respiratory problems and infections. The occurrence of low weight when born represents, still, a general indicator of the level of health of a population, to be associated with the socioeconomic conditions.

Mothers of children born with low weight should be monitored particularly in relation to the breastfeeding and to the gain of weight, because these children may have difficulties to nurse. The World Health Organization and UNICEF recommend that the health professionals, specially nurses who work in the primary, should inform mothers about the normal parameters of weight loss in the neonatal period, warning them about the risks of the use of milk formulas.

It is noted the importance of health professionals to develop skills in observing the breastfeeding technique, to identify changes in the volume and appearance of the maternal milk, as well as the behavior of the newborn which are essential to reassure the mothers in the process of lactation.

In this study, mothers of newborns with weight more than 3000g showed in puerperium, indexes with statistical significance levels in the BSES-SF scores ($p = 0.007$), since it may indicate better maternal reliability to breastfeed. This finding is relevant, since the relationship between self-efficacy to breastfeed has been associated with the duration of the same.

Other positive relationships between scores of the BSES-SF were observed in newborns with punctuation in the Apgar score greater than or equal to 7 term borns, showing a statistically significant association ($p < 0.05$). It is known that gestational age and vitality at

birth may make difficult the initiation of breastfeeding, especially breastfeeding at the first hour of life of the newborn, because strong babies who present seven or more points in the Apgar scale at the first minute and which are term, generally do not need resuscitation and can be placed in contact with the mother immediately after birth to initiate breastfeeding.

Thus, it is inferred that the better are the conditions of birth of the children, the greater will be the confidence of the mothers in caring for the child, are likely to feel more secure when dealing with a healthy newborn, with spontaneous activities and with good suction reflex. Such situations were probably interpreted as positive experiences and may have contributed to the improvement of the self-efficacy scores.

Most children were breastfed exclusively until the 15th day of life, verifying that self-efficacy scores of women, who maintained Emergency Medical Assistance in this period, were statistically significant, when compared to the prenatal ones ($p 0.011$). This data is relevant, because the first days after birth are considered crucial to the success of breastfeeding, because it is in this period when the lactation is established, as well as being a period of intense learning for the mother and baby.

The interpretation of the nursing about her own experience is an important determinant for the breastfeeding, keeping in mind that if this is positive, will function as a reinforcement in the process of breastfeeding.

Another finding that merits consideration is the significant relationship of self-efficacy scores in the puerperium as the frequency of the suctions. The Ministry of Health recommends that children under two months old should breastfeed at least eight times a day, which is a criterion in identifying the risk for problems with breastfeeding.²⁵ However, in this study, the improvement in maternal confidence to breastfeed showed significant only for those who breastfed for more than ten times a day ($p 0.01$), indicating that increasing the frequency of the suctions can be a positive factor for breastfeeding.

CONCLUSION

This study allowed us to glimpse a theme still a little explored with regard to breastfeeding, in view of the lack of studies which associate the maternal self-efficacy in breastfeeding with variables of health conditions of the newborn.

It was verified that the child's weight and height at birth, gender, Apgar score, type of feeding of the newborn showed significant association with self-efficacy of the mothers, implying that not only maternal variables influence in their self-confidence as to favorable behaviors to the breastfeeding.

Given this, for the nurses to intervene in the promotion of breastfeeding through self-efficacy, the same must evaluate the maternal sociodemographic characteristics and familiar, as the health conditions of the own child, because their actions should be directed according to the particularities of each population.

With regard to the development of the study, it can be considered as limitation the reduced number of the sample, although it comprised all the population of women accompanied in the prenatal that met the eligibility criteria.

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